

**MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.**

**For the given expression, identify the terms and the numerical coefficients.**

- 1)  $-3y^6 + y^2 - y + 8 + 4y^2$  1) \_\_\_\_\_
- |  |   |
|--|---|
| A) Constant terms: 8<br>Variable terms: $-3y^6, y^2, -y, 4y^2$<br>Coefficients: $-3, 8, 4$     | B) Constant terms: 8<br>Variable terms: $-3y^6, y^2, -y, 4y^2$<br>Coefficients: $-3, 1, -1, 8, 4$ |
| C) Constant terms: $-3, 8, 4$<br>Variable terms: $y^6, y^2, y$<br>Coefficients: $-3, 1, -1, 4$ | D) Constant terms: $-3, 8, 4$<br>Variable terms: $y^6, y^2, y$<br>Coefficients: $-3, 8, 4$        |

- 2)  $-\frac{1}{5}x - \frac{1}{2}y + \frac{1}{10}x + \frac{4}{5}y$  2) \_\_\_\_\_
- |   |  |
|---|--|
| A) Constant terms: $-\frac{1}{5}, -\frac{1}{2}, \frac{1}{10}, \frac{4}{5}$<br>Variable terms: $x, y$<br>Coefficients: $-\frac{1}{5}, -\frac{1}{2}, \frac{1}{10}, \frac{4}{5}$   | B) Constant terms: $-\frac{1}{5}, -\frac{1}{2}, \frac{1}{10}, \frac{4}{5}$<br>Variable terms: $x, y, x, y$<br>Coefficients: $-\frac{1}{5}, -\frac{1}{2}, \frac{1}{10}, \frac{4}{5}$  |
| C) Constant terms: None<br>Variable terms: $-\frac{1}{5}x, -\frac{1}{2}y, \frac{1}{10}x, \frac{4}{5}y$<br>Coefficients: $-\frac{1}{5}, -\frac{1}{2}, \frac{1}{10}, \frac{4}{5}$ | D) Constant terms: $-\frac{1}{5}, -\frac{1}{2}, \frac{1}{10}, \frac{4}{5}$<br>Variable terms: $-\frac{1}{5}x, -\frac{1}{2}y, \frac{1}{10}x, \frac{4}{5}y$<br>Coefficients: $-\frac{1}{5}, -\frac{1}{2}, \frac{1}{10}, \frac{4}{5}$ |

- 3)  $2x(y+8) - 4(y+8)$  3) \_\_\_\_\_
- |   |  |
|---|--|
| A) Constant terms: $-4$<br>Variable terms: $2x, (y+8)$<br>Coefficients: $2, -4$           | B) Constant terms: None<br>Variable terms: $2x(y+8), -4(y+8)$<br>Coefficients: $2, -4$ |
| C) Constant terms: None<br>Variable terms: $2x, 2(y+8), -4(y+8)$<br>Coefficients: $2, -4$ | D) Constant terms: $8, -4$<br>Variable terms: $2xy, -4y$<br>Coefficients: $2, -4$      |

- 4)  $x^2 - y^2 - 3xy + 9$  4) \_\_\_\_\_
- |   |  |
|---|--|
| A) Constant terms: $-3, 9$<br>Variable terms: $x^2, y^2, xy$<br>Coefficients: $-3$          | B) Constant terms: $9$<br>Variable terms: $x^2, y^2, -3x, y$<br>Coefficients: $1, -1, -3, 9$ |
| C) Constant terms: $9$<br>Variable terms: $x^2, -y^2, -3xy$<br>Coefficients: $1, -1, -3, 9$ | D) Constant terms: $-3, -9$<br>Variable terms: $x^2, -y^2, xy$<br>Coefficients: $-3$         |

**Determine whether the terms are like or unlike.**

- 5)  $12z, -11z$  5) \_\_\_\_\_
- A) like B) unlike
- 
- 6)  $3a^9, 3a^2$  6) \_\_\_\_\_
- A) like B) unlike

7)  $6m, 8m, -14m$

A) like

B) unlike

7) \_\_\_\_\_

8)  $11b, 11, 6a$

A) like

B) unlike

8) \_\_\_\_\_

9)  $4xy^3z, -21xy^2$

A) like

B) unlike

9) \_\_\_\_\_

10)  $ab, 19ba$

A) like

B) unlike

10) \_\_\_\_\_

11)  $6, 10, -15$

A) like

B) unlike

11) \_\_\_\_\_

**Simplify.**

12)  $7a - 4a + 3$

A)  $3a + 3$

B)  $-3a + 3$

C)  $11a + 3$

D)  $6a$

12) \_\_\_\_\_

13)  $-7b + 2b$

A)  $-5b^2$

B)  $-5b$

C)  $5b$

D)  $-9b$

13) \_\_\_\_\_

14)  $-4y - 3y$

A)  $7y$

B)  $-7y^2$

C)  $-1y$

D)  $-7y$

14) \_\_\_\_\_

15)  $-7y + 6 - 7 + 2 + y - 1$

A)  $-6y$

B)  $-6y - 1$

C)  $-8y$

D)  $-8y + 1$

15) \_\_\_\_\_

16)  $-2x^5 - 4x^5$

A)  $-6x^5$

B)  $-6x^{25}$

C)  $-7x^5$

D)  $-6x^{10}$

16) \_\_\_\_\_

17)  $1.4x + 1.2x - 0.2x$

A)  $12x$

C)  $3.8x$

B)  $1.4x + 1.2x - 0.2x$

D)  $2.4x$

17) \_\_\_\_\_

18)  $-2y^3 + 9y^3$

A)  $-2y^3 + 9y^3$

B)  $7y^6$

C)  $7y^3$

D)  $-11y^3$

18) \_\_\_\_\_

19)  $7x + 4 - 3x + 8$

A)  $4x + 12$

B)  $10x + 12$

C)  $4x - 4$

D)  $16x$

19) \_\_\_\_\_

20)  $5.7k - 1.3 - 3.2k + 7 + 2.6k$

A)  $5.1k - 5.7$

B)  $11.5k + 5.7$

C)  $5.1k + 5.7$

D)  $5.1k + 8.3$

20) \_\_\_\_\_

21)  $-\frac{1}{2}x + \frac{4}{7} - \frac{4}{7}x$  21) \_\_\_\_\_  
 A)  $\frac{1}{14}x - \frac{4}{7}$  B)  $-\frac{1}{2}x$  C)  $\frac{2}{7}x + \frac{4}{7}$  D)  $-\frac{15}{14}x + \frac{4}{7}$

22)  $-\frac{1}{2}x + \frac{7}{8} + \frac{7}{8}x - 5$  22) \_\_\_\_\_  
 A)  $\frac{3}{8}x + \frac{47}{8}$  B)  $-\frac{11}{8}x - \frac{33}{8}$  C)  $\frac{3}{8}x - \frac{33}{8}$  D)  $\frac{11}{8}x - \frac{33}{8}$

23)  $-\frac{4}{7}x + \frac{7}{8} + \frac{7}{8}x + \frac{1}{4}$  23) \_\_\_\_\_  
 A)  $\frac{17}{56}x + \frac{9}{8}$  B)  $-\frac{1}{2}x + \frac{7}{32}$  C)  $\frac{17}{56}x + \frac{7}{32}$  D)  $-\frac{81}{56}x + \frac{9}{8}$

24)  $-\frac{1}{4}x + \frac{1}{3} + (-\frac{1}{3}x) + \frac{1}{6}$  24) \_\_\_\_\_  
 A)  $\frac{1}{12}x + \frac{1}{2}$  B)  $\frac{1}{3}x + \frac{1}{18}$  C)  $-\frac{7}{12}x + \frac{1}{2}$  D)  $-\frac{7}{12}x + \frac{1}{18}$

25)  $-\frac{1}{3}x - \frac{1}{2}y + \frac{7}{6}x - \frac{3}{4}y - \frac{5}{6}x + \frac{5}{4}y$  25) \_\_\_\_\_  
 A)  $\frac{1}{2}x + \frac{1}{3}y$  B) 0 C)  $\frac{1}{2}x + \frac{1}{2}y$  D)  $\frac{2}{3}x + \frac{1}{2}y$

**Use the distributive property to remove parentheses.**

26)  $8(a + y)$  26) \_\_\_\_\_  
 A)  $8a + 8y$  B)  $8ay$  C)  $8a - 8y$  D)  $8a + y$

27)  $4(8n + 10)$  27) \_\_\_\_\_  
 A)  $72n$  B)  $32n + 10$  C)  $12n + 14$  D)  $32n + 40$

28)  $-3(7n + 7)$  28) \_\_\_\_\_  
 A)  $4n + 4$  B)  $-21n + 7$  C)  $-42n$  D)  $-21n - 21$

29)  $\frac{1}{2}(6x - 4)$  29) \_\_\_\_\_  
 A)  $3x - 4$  B)  $x$  C)  $12x - 8$  D)  $3x - 2$

30)  $6(2x + 8y + 9)$  30) \_\_\_\_\_  
 A)  $12x + 8y + 54$  B)  $12x + 48y + 9$  C)  $12x + 8y + 9$  D)  $12x + 48y + 54$

31)  $-\frac{5}{4}(8y - 4x + 16z)$  31) \_\_\_\_\_  
 A)  $-10y + 5x - 20z$  B)  $-10y - 5x - 20z$   
 C)  $-10y - 4x + 16z$  D)  $-10y + 5x + 20z$

- 32)  $0.8(3x + 1.6)$  32) \_\_\_\_\_  
 A)  $2.4x + 1.6$  B)  $2.4x + 1.28$  C)  $3.8x + 2.4$  D)  $3.75x + 1.28$
- 33)  $1.5(4.1x - 5.6y + 1.9)$  33) \_\_\_\_\_  
 A)  $5.6x - 4.1y + 3.4$  B)  $6.15x - 8.4y + 2.85$   
 C)  $2.73x - 3.73y + 1.27$  D)  $6.15x - 5.6y + 1.9$
- 34)  $-(2x + 2y)$  34) \_\_\_\_\_  
 A)  $2x - 2y$  B)  $2x + 2y$  C)  $-2x + 2y$  D)  $-2x - 2y$
- 35)  $(-3m + 9n - 6p)$  35) \_\_\_\_\_  
 A)  $-3m + 9n - 6p$  B)  $3m - 9n - 6p$  C)  $3m - 9n + 6p$  D)  $-3m + 9n + 6p$

**Simplify.**

- 36)  $-10(6r + 8) + 9(6r + 6)$  36) \_\_\_\_\_  
 A)  $-4r - 2$  B)  $-6r + 8$  C)  $-140r$  D)  $-6r - 26$
- 37)  $-5(9r + 8) + 10(9r + 8)$  37) \_\_\_\_\_  
 A)  $4r + 3$  B)  $45r + 40$  C)  $45r + 8$  D)  $-85r$
- 38)  $-6 + 3(12 - 7m)$  38) \_\_\_\_\_  
 A)  $30 + 21m$  B)  $36 - 21m$  C)  $30 - 7m$  D)  $30 - 21m$
- 39)  $-6(2x - 6) - 4x + 9$  39) \_\_\_\_\_  
 A)  $16x + 45$  B)  $-16x + 45$  C)  $-16x - 27$  D)  $8x + 45$
- 40)  $-7(5r + 9) + 5(3r + 3)$  40) \_\_\_\_\_  
 A)  $-2r + 2$  B)  $-20r - 48$  C)  $-98r$  D)  $-20r + 9$
- 41)  $3x - 6(x - 2y)$  41) \_\_\_\_\_  
 A)  $-3x - 12y$  B)  $-3x + 12y$  C)  $-3x - 2y$  D)  $2x + 12y$
- 42)  $-\left(\frac{6}{7}x - \frac{1}{7}\right) + 2x$  42) \_\_\_\_\_  
 A)  $\frac{20}{7}x + \frac{1}{7}$  B)  $-\frac{4}{7}x - \frac{1}{7}$  C)  $\frac{9}{7}x$  D)  $\frac{8}{7}x + \frac{1}{7}$
- 43)  $0.2 - 0.3(y + 8) + 0.2 - 2$  43) \_\_\_\_\_  
 A)  $-0.3y - 4$  B)  $-0.3y - 9.6$   
 C)  $y + 2.220446049e-16$  D)  $0.3y + 0.8$

**Identify the equation as linear or nonlinear.**

- 44)  $3x + 7y = 4$  44) \_\_\_\_\_  
 A) linear B) nonlinear
- 45)  $y = \frac{8}{9}x + 5$  45) \_\_\_\_\_  
 A) nonlinear B) linear

46)  $y = x^3 + 3$  46) \_\_\_\_\_  
A) linear B) nonlinear

47)  $y - x = 8$  47) \_\_\_\_\_  
A) nonlinear B) linear

**Solve the problem.**

48) Is  $p = 10$  a solution of  $p + 13 = 23$ ? 48) \_\_\_\_\_  
A) Yes B) No

49) Is  $x = 9$  a solution of  $x - 5 = 4$ ? 49) \_\_\_\_\_  
A) Yes B) No

50) Is  $x = 3$  a solution of  $2x + 4 = 12$ ? 50) \_\_\_\_\_  
A) Yes B) No

51) Is  $y = 7$  a solution of  $6y + 2(y - 5) = 46$ ? 51) \_\_\_\_\_  
A) Yes B) No

52) Is  $x = 4$  a solution of  $7x + 6x - 8 = 44$ ? 52) \_\_\_\_\_  
A) Yes B) No

53) Is  $k = \frac{1}{2}$  a solution of  $4k - 5 = 2k - 6$ ? 53) \_\_\_\_\_  
A) Yes B) No

54) Is  $z = \frac{13}{4}$  a solution of  $-(z - 6) - (z - 3) = 2z - 4$ ? 54) \_\_\_\_\_  
A) Yes B) No

**Determine whether the given equations are equivalent equations.**

55)  $2x - 3 = 7, 2x = 10, x = 5$  55) \_\_\_\_\_  
A) Equivalent equations B) Not equivalent equations

56)  $2x + 3 = 7, 2x = 10, x = 5$  56) \_\_\_\_\_  
A) Equivalent equations B) Not equivalent equations

**Solve the equation and check your solution.**

57)  $x - 21 = -17$  57) \_\_\_\_\_  
A)  $x = -4$  B)  $x = -38$  C)  $x = 4$  D)  $x = 38$

58)  $14 = x - 2$  58) \_\_\_\_\_  
A)  $x = 16$  B)  $x = -12$  C)  $x = -16$  D)  $x = 12$

59)  $t - 3 = 10$  59) \_\_\_\_\_  
A)  $t = -7$  B)  $t = 7$  C)  $t = -13$  D)  $t = 13$

- 60)  $8.9 + x = 17.2$  60) \_\_\_\_\_  
 A)  $x = 8.3$  B)  $x = 7.8$  C)  $x = 25.6$  D)  $x = 26.1$
- 61)  $-8.2 + x = 21$  61) \_\_\_\_\_  
 A)  $x = 28.7$  B)  $x = 12.3$  C)  $x = 12.8$  D)  $x = 29.2$
- 62)  $-2.8 + x = 12.4$  62) \_\_\_\_\_  
 A)  $x = 14.7$  B)  $x = 9.6$  C)  $x = 9.1$  D)  $x = 15.2$
- 63)  $-3.6 = 21 - x$  63) \_\_\_\_\_  
 A)  $x = 24.6$  B)  $x = 24.1$  C)  $x = 17.4$  D)  $x = 16.9$
- 64)  $2.7 = 21.2 - x$  64) \_\_\_\_\_  
 A)  $x = 23.9$  B)  $x = 18$  C)  $x = 18.5$  D)  $x = 23.4$

**SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.**

- 65) There are no exercises for this objective. 65) \_\_\_\_\_

**MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.**

**Find the reciprocal.**

- 66) 20 66) \_\_\_\_\_  
 A) 1 B)  $\frac{1}{20}$  C) -20 D)  $-\frac{1}{20}$
- 67)  $\frac{1}{7}$  67) \_\_\_\_\_  
 A) 1 B) -7 C) 7 D)  $-\frac{1}{7}$
- 68)  $\frac{2}{3}$  68) \_\_\_\_\_  
 A)  $-\frac{2}{3}$  B)  $\frac{3}{2}$  C) 3 D)  $-\frac{3}{2}$
- 69)  $\frac{9}{4}$  69) \_\_\_\_\_  
 A)  $\frac{4}{9}$  B)  $-\frac{9}{4}$  C)  $-\frac{4}{9}$  D) 4

**Solve the equation and check your solution.**

- 70)  $-\frac{1}{2}x = -1$  70) \_\_\_\_\_  
 A)  $x = 2$  B)  $x = 0$  C)  $x = -3$  D)  $x = -4$

- 71)  $-\frac{1}{21}a = 0$  71) \_\_\_\_\_  
 A)  $a = 21$  B)  $a = 1$  C)  $a = -21$  D)  $a = 0$
- 72)  $\frac{n}{5} = 6$  72) \_\_\_\_\_  
 A)  $n = 1$  B)  $n = 10$  C)  $n = 11$  D)  $n = 30$
- 73)  $8a = -72$  73) \_\_\_\_\_  
 A)  $a = 1$  B)  $a = 80$  C)  $a = -9$  D)  $a = -80$
- 74)  $-9x = -45$  74) \_\_\_\_\_  
 A)  $x = 36$  B)  $x = -36$  C)  $x = 2$  D)  $x = 5$
- 75)  $\frac{1}{2}s = -\frac{7}{9}$  75) \_\_\_\_\_  
 A)  $s = -\frac{9}{14}$  B)  $s = -\frac{14}{3}$  C)  $s = \frac{14}{9}$  D)  $s = -\frac{14}{9}$
- 76)  $\frac{n}{2} = 8$  76) \_\_\_\_\_  
 A)  $n = 10$  B)  $n = 4$  C)  $n = 9$  D)  $n = 16$
- 77)  $\frac{1}{2}k = -2$  77) \_\_\_\_\_  
 A)  $k = 15$  B)  $k = 2$  C)  $k = -4$  D)  $k = 14$
- 78)  $\frac{x}{3} = 12$  78) \_\_\_\_\_  
 A)  $x = 4$  B)  $x = 14$  C)  $x = 15$  D)  $x = 36$
- 79)  $8x = -16$  79) \_\_\_\_\_  
 A)  $x = -2$  B)  $x = 1$  C)  $x = 24$  D)  $x = -24$
- 80)  $-24.0 = -3.0x$  80) \_\_\_\_\_  
 A)  $x = 8$  B)  $x = 21$  C)  $x = -21$  D)  $x = 2$
- 81)  $-8x = -72$  81) \_\_\_\_\_  
 A)  $x = -64$  B)  $x = 2$  C)  $x = 64$  D)  $x = 9$
- 82)  $\frac{4}{9}x = -\frac{1}{6}$  82) \_\_\_\_\_  
 A)  $x = \frac{3}{8}$  B)  $x = -\frac{8}{3}$  C)  $x = -\frac{3}{8}$  D)  $x = \frac{3}{2}$
- 83)  $-9.3 = -3.1x$  83) \_\_\_\_\_  
 A)  $x = 3$  B)  $x = 2$  C)  $x = 6.2$  D)  $x = -6.2$

84)  $-5.58 = 1.86v$  84) \_\_\_\_\_  
 A)  $v = -3$       B)  $v = -10.38$       C)  $v = 3$       D)  $v = -\frac{1}{3}$

85)  $-z = -4$  85) \_\_\_\_\_  
 A)  $z = -4$       B)  $z = -1$       C)  $z = 4$       D)  $z = 0$

86)  $-x = -\frac{7}{8}$  86) \_\_\_\_\_  
 A)  $x = \frac{7}{8}$       B)  $x = \frac{8}{7}$       C)  $x = -\frac{8}{7}$       D)  $x = -\frac{7}{8}$

**SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.**

87) There are no exercises for this objective. 87) \_\_\_\_\_

**MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.**

**Solve the equation.**

88)  $9x - (8x - 1) = 2$  88) \_\_\_\_\_  
 A)  $x = 1$       B)  $x = -1$       C)  $x = -\frac{1}{17}$       D)  $x = \frac{1}{17}$

89)  $10r + 10 = 40$  89) \_\_\_\_\_  
 A)  $r = 20$       B)  $r = 24$       C)  $r = 3$       D)  $r = 6$

90)  $8n - 8 = 8$  90) \_\_\_\_\_  
 A)  $n = 2$       B)  $n = 9$       C)  $n = 8$       D)  $n = 12$

91)  $29 = -8x + 5$  91) \_\_\_\_\_  
 A)  $x = 8$       B)  $x = 36$       C)  $x = 32$       D)  $x = -3$

92)  $8(k - 6) - (7k - 6) = 9$  92) \_\_\_\_\_  
 A)  $k = -9$       B)  $k = -33$       C)  $k = 51$       D)  $k = -51$

93)  $9x - (8x - 1) = 2$  93) \_\_\_\_\_  
 A)  $\frac{1}{17}$       B)  $-\frac{1}{17}$       C)  $1$       D)  $-1$

94)  $5(2x - 1) = 20$  94) \_\_\_\_\_  
 A)  $\frac{3}{2}$       B)  $\frac{5}{2}$       C)  $\frac{21}{10}$       D)  $\frac{19}{10}$

95)  $x - 5(2x + 9) = 0$  95) \_\_\_\_\_  
 A)  $x = -5$       B)  $x = 5$       C)  $x = -1$       D)  $x = 3$

96)  $4x - 5x + 3x = -76$  96) \_\_\_\_\_  
 A)  $x = -78$       B)  $x = -38$       C)  $x = 12.7$       D)  $x = 0$



- 97)  $\frac{a}{4} - \frac{1}{4} = -2$  97) \_\_\_\_\_  
 A)  $a = 7$  B)  $a = 9$  C)  $a = -9$  D)  $a = -7$
- 98)  $0.80x - 0.40(50 + x) = 0.16(50)$  98) \_\_\_\_\_  
 A)  $x = 60$  B)  $x = 35$  C)  $x = 70$  D)  $x = 80$
- 99)  $\frac{f}{5} - 3 = 1$  99) \_\_\_\_\_  
 A)  $f = -10$  B)  $f = -20$  C)  $f = 10$  D)  $f = 20$
- 100)  $\frac{2x}{5} - \frac{x}{3} = 2$  100) \_\_\_\_\_  
 A)  $x = 60$  B)  $x = -30$  C)  $x = -60$  D)  $x = 30$
- 101)  $\frac{b}{17} - 6 = -4$  101) \_\_\_\_\_  
 A)  $b = 36$  B)  $b = -36$  C)  $b = 34$  D)  $b = -34$
- 102)  $19.0 = -23.0 - n$  102) \_\_\_\_\_  
 A)  $n = -42$  B)  $n = 42$  C)  $n = -4$  D)  $n = 4$
- 103)  $5.59 - 4.32x - 1.8x = 32.518$  103) \_\_\_\_\_  
 A)  $x = -4.4$  B)  $x = 12.9$  C)  $x = -6.23$  D)  $x = 5.4$
- 104)  $1 = \frac{1}{3}(t - 9)$  104) \_\_\_\_\_  
 A)  $t = 10$  B)  $t = -6$  C)  $t = \frac{9}{2}$  D)  $t = 12$
- 105)  $5(y + 6) = 6(y - 7)$  105) \_\_\_\_\_  
 A)  $y = -12$  B)  $y = 12$  C)  $y = 72$  D)  $y = -72$
- 106)  $-2x + 5(3x - 5) = -6 - 6x$  106) \_\_\_\_\_  
 A)  $x = 1$  B)  $x = -\frac{31}{7}$  C)  $x = -\frac{31}{19}$  D)  $x = -1$
- 107)  $(y - 5) - (y + 8) = 7y$  107) \_\_\_\_\_  
 A)  $y = \frac{1}{7}$  B)  $y = -\frac{13}{5}$  C)  $y = -\frac{13}{3}$  D)  $y = -\frac{13}{7}$
- 108)  $5p = 6(8p + 3)$  108) \_\_\_\_\_  
 A)  $p = \frac{43}{18}$  B)  $p = \frac{18}{43}$  C)  $p = \frac{18}{5}$  D)  $p = -\frac{18}{43}$

- 109)  $13(3c - 2) = 5c - 2$  109) \_\_\_\_\_  
 A)  $c = -\frac{12}{17}$  B)  $c = \frac{6}{11}$  C)  $c = \frac{14}{17}$  D)  $c = \frac{12}{17}$
- 110)  $3(y + 4) = 4(y - 2)$  110) \_\_\_\_\_  
 A)  $y = 20$  B)  $y = -4$  C)  $y = 4$  D)  $y = -20$
- 111)  $3(2z - 5) = 5(z + 2)$  111) \_\_\_\_\_  
 A)  $z = -2$  B)  $z = 25$  C)  $z = 5$  D)  $z = -5$
- 112)  $8p = 7(5p + 7)$  112) \_\_\_\_\_  
 A)  $p = \frac{27}{49}$  B)  $p = \frac{49}{27}$  C)  $p = \frac{49}{8}$  D)  $p = -\frac{49}{27}$
- 113)  $3(2z - 2) = 5(z + 3)$  113) \_\_\_\_\_  
 A)  $z = 9$  B)  $z = 21$  C)  $z = -9$  D)  $z = 12$
- 114)  $-4x + 2(2x - 7) = -5 - 9x$  114) \_\_\_\_\_  
 A)  $x = -\frac{19}{9}$  B)  $x = 1$  C)  $x = \frac{19}{9}$  D)  $x = -1$
- 115)  $\frac{r+6}{5} = \frac{r+8}{7}$  115) \_\_\_\_\_  
 A)  $r = -2$  B)  $r = 2$  C)  $r = 1$  D)  $r = -1$
- 116)  $\frac{3(y - 2)}{5} = 1 - 3y$  116) \_\_\_\_\_  
 A)  $y = \frac{11}{6}$  B)  $y = \frac{7}{6}$  C)  $y = -\frac{11}{18}$  D)  $y = \frac{11}{18}$
- 117)  $0.06y + 0.14(3000 - y) = 0.42y$  117) \_\_\_\_\_  
 A)  $y = 2520$  B)  $y = 210$  C)  $y = 840$  D)  $y = 2100$
- 118)  $-0.50(20) + 0.40x = 0.20(20 + x)$  118) \_\_\_\_\_  
 A)  $x = 35$  B)  $x = 60$  C)  $x = 70$  D)  $x = 80$
- 119)  $\frac{2x}{5} = \frac{x}{3} + 4$  119) \_\_\_\_\_  
 A)  $x = 120$  B)  $x = -120$  C)  $x = 60$  D)  $x = -60$
- 120)  $\frac{r}{3} + \frac{6}{3} = \frac{r}{6} + \frac{8}{6}$  120) \_\_\_\_\_  
 A)  $r = 4$  B)  $r = 3$  C)  $r = -12$  D)  $r = -4$

- 121)  $\frac{7}{3} - \frac{x}{3} = \frac{x}{4}$  121) \_\_\_\_\_  
 A)  $x = 7$  B)  $x = \frac{28}{5}$  C)  $x = 4$  D)  $x = -4$
- 122)  $\frac{y}{5} - \frac{2}{5} = \frac{1}{3} - y$  122) \_\_\_\_\_  
 A)  $y = \frac{7}{6}$  B)  $y = \frac{11}{6}$  C)  $y = -\frac{11}{18}$  D)  $y = \frac{11}{18}$
- 123)  $2.8m - 6.2 - 8.8m = 1.1 - 6m - 7.3$  123) \_\_\_\_\_  
 A) no solution B) all real numbers  
 C)  $m = 0$  D)  $m = 1.5$
- 124)  $9x + 6 + 9x + 7 = 7x + 11x + 10$  124) \_\_\_\_\_  
 A) no solution B)  $x = 0$   
 C) all real numbers D)  $x = 288$
- 125)  $7(x + 5) = (7x + 35)$  125) \_\_\_\_\_  
 A) no solution B)  $x = 0$   
 C)  $x = 70$  D) all real numbers
- 126)  $4(x + 2) - (4x + 8) = 0$  126) \_\_\_\_\_  
 A)  $x = 2$  B) no solution  
 C) all real numbers D)  $x = 0$
- 127)  $\frac{1}{3}(6x - 9) = 6\left(\frac{1}{3}x - \frac{1}{2}\right) + 9$  127) \_\_\_\_\_  
 A)  $x = 0$  B)  $x = \frac{9}{4}$   
 C) all real numbers D) no solution
- 128)  $\frac{x}{7} - 1 = \frac{x}{7}$  128) \_\_\_\_\_  
 A) no solution B)  $x = \frac{7}{2}$   
 C) all real numbers D)  $x = 0$

**Use the simple interest formula.**

- 129) Kevin invested part of his \$10,000 bonus in a certificate of deposit that paid 6% annual simple interest, and the remainder in a mutual fund that paid 11% annual simple interest. If his total interest for that year was \$700, how much did Kevin invest in the mutual fund? 129) \_\_\_\_\_  
 A) \$2000 B) \$1000 C) \$3000 D) \$8000

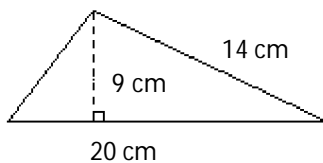
- 130) How can \$56,000 be invested, part at 4% annual simple interest and the remainder at 10% annual simple interest, so that the interest earned by the two accounts is equal at the end of the year? 130) \_\_\_\_\_  
 A) \$40,000 invested at 4%; \$16,000 invested at 10%  
 B) \$30,000 invested at 4%; \$26,000 invested at 10%  
 C) \$16,000 invested at 4%; \$40,000 invested at 10%  
 D) \$26,000 invested at 4%; \$30,000 invested at 10%
- 131) Melissa invested a sum of money at 3% annual simple interest. She invested three times that sum at 5% annual simple interest. If her total yearly interest from both investments was \$3600, how much was invested at 3%? 131) \_\_\_\_\_  
 A) \$45,000                      B) \$20,000                      C) \$15,000                      D) \$135,000
- 132) If \$2000 is invested at 10% simple annual interest, how much should be invested at 12% annual simple interest so that the total yearly income from both investments is \$5000? 132) \_\_\_\_\_  
 A) \$47,600                      B) \$4000                      C) \$40,000                      D) \$4760
- 133) Alice invested some money at 3% simple interest. At the end of the year the total amount of her original principal and the interest was \$2472. How much did she originally invest? 133) \_\_\_\_\_  
 A) \$824                      B) \$72                      C) \$7416                      D) \$2400
- 134) Find the interest on \$5700 borrowed at an interest rate of 4% for one year. 134) \_\_\_\_\_  
 A) \$228                      B) \$5928                      C) \$1425                      D) \$2280

**Use the distance formula.**

- 135) A contestant in a 24-mile race finished in 5 hours. What was her average rate during the race? (Round to the nearest tenth, if necessary.) 135) \_\_\_\_\_  
 A) 120 mph                      B) 0.2 mph                      C) 19 mph                      D) 4.8 mph
- 136) How long would it take to drive 720 kilometers if your average rate of speed was 80 kilometers per hour? 136) \_\_\_\_\_  
 A) 9 hr                      B) 80 hr                      C) 10 hr                      D) 576 hr
- 137) Ashley drove home from school for Thanksgiving. She traveled 264 miles in 4 hours. What was her average speed? 137) \_\_\_\_\_  
 A) 71 mph                      B) 63 mph                      C) 260 mph                      D) 66 mph
- 138) Chris rode his bike at an average speed of 13.9 miles per hour for 3 hours. How far did he bike? 138) \_\_\_\_\_  
 A) 13.9 mi                      B) 4.6 mph                      C) 55.6 mi                      D) 41.7 mi

**Determine the area or volume as indicated. Use 3.14 for  $\pi$  when necessary.**

- 139) 139) \_\_\_\_\_

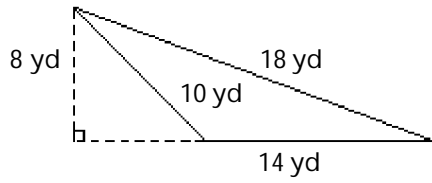


Find the area.

- A)  $180 \text{ cm}^2$                       B)  $63 \text{ cm}^2$                       C)  $90 \text{ cm}^2$                       D)  $140 \text{ cm}^2$

140)

140) \_\_\_\_\_



Find the area.

A)  $72 \text{ yd}^2$

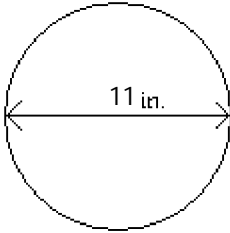
B)  $40 \text{ yd}^2$

C)  $112 \text{ yd}^2$

D)  $56 \text{ yd}^2$

141)

141) \_\_\_\_\_



Find the area.

A)  $34.54 \text{ in.}^2$

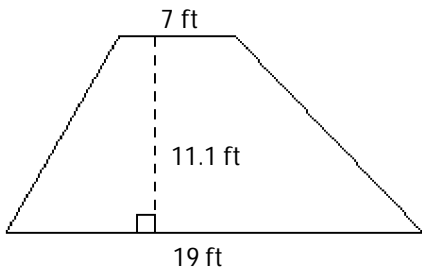
B)  $69.08 \text{ in.}^2$

C)  $379.94 \text{ in.}^2$

D)  $94.99 \text{ in.}^2$

142)

142) \_\_\_\_\_



Find the area.

A)  $77.7 \text{ ft}^2$

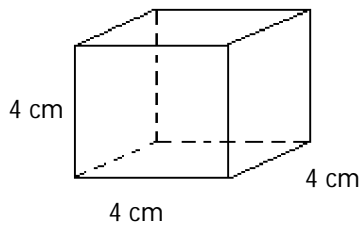
B)  $210.9 \text{ ft}^2$

C)  $144.3 \text{ ft}^2$

D)  $288.6 \text{ ft}^2$

143)

143) \_\_\_\_\_



Find the volume.

A)  $64 \text{ cm}^3$

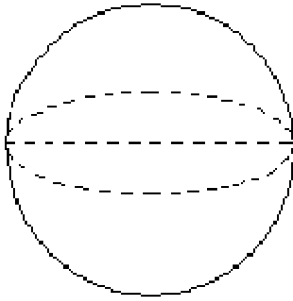
B)  $16 \text{ cm}^3$

C)  $12 \text{ cm}^3$

D)  $32 \text{ cm}^3$

144)

144) \_\_\_\_\_



diameter = 6.8 m

Find the volume. Round to the nearest hundredth.

- A) 145.19 m<sup>3</sup>      B) 164.55 m<sup>3</sup>      C) 24.20 m<sup>3</sup>      D) 987.32 m<sup>3</sup>

145)

145) \_\_\_\_\_

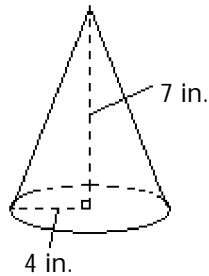
14 ft

Find the volume.

- A) 153.9 ft<sup>3</sup>      B) 2154 ft<sup>3</sup>      C) 538.5 ft<sup>3</sup>      D) 307.7 ft<sup>3</sup>

146)

146) \_\_\_\_\_



Find the volume. Round to the nearest whole unit.

- A) 234 in.<sup>3</sup>      B) 176 in.<sup>3</sup>      C) 59 in.<sup>3</sup>      D) 117 in.<sup>3</sup>

**Use geometry formulas to solve.**

147) A circular fountain has a radius of 25 ft. Determine the circumference of the fountain.

147) \_\_\_\_\_

- A) 157 ft      B) 1962.5 ft      C) 78.5 ft      D) 39.25 ft

148) Michael is shipping his mother's birthday gift to her in a rectangular box. If the gift's dimensions are 3 inches long by 5 inches wide by 9 inches high, find the volume of the smallest box that will hold the gift.

148) \_\_\_\_\_

- A) 270 in.<sup>3</sup>      B) 135 in.<sup>3</sup>      C) 16 in.<sup>3</sup>      D) 17 in.<sup>3</sup>

Use the formula to find the value of the variable indicated. Use a calculator to save time and where necessary, round your answer to the nearest hundredth.

149)  $A = \frac{1}{2}bh$ ; find  $b$  when  $A = 16$  and  $h = 6$ . 149) \_\_\_\_\_  
 A)  $b = 48$                       B)  $b = 1.33$                       C)  $b = 5.33$                       D)  $b = 0.19$

150)  $V = \frac{1}{3}Bh$ ; find  $h$  when  $V = 48$  and  $B = 12$ . 150) \_\_\_\_\_  
 A)  $h = 0.33$                       B)  $h = 0.08$                       C)  $h = 12$                       D)  $h = 0.75$

151)  $d = rt$ ; find  $r$  when  $d = 560$  and  $t = 8$ . 151) \_\_\_\_\_  
 A)  $r = 552$                       B)  $r = 4480$                       C)  $r = 0.01$                       D)  $r = 70$

152)  $P = 2l + 2w$ ; find  $l$  when  $P = 24$  and  $w = 4$ . 152) \_\_\_\_\_  
 A)  $l = 20$                       B)  $l = 10$                       C)  $l = 16$                       D)  $l = 8$

153)  $P = \frac{A}{1 + rt}$ ; find  $r$  when  $P = 1650$ ,  $A = 2145$ , and  $t = 4$ . 153) \_\_\_\_\_  
 A)  $r = 99$                       B)  $r = 6930$                       C)  $r = 0.19$                       D)  $r = 0.08$

Solve for the indicated variable.

154)  $A = \frac{1}{2}bh$ , for  $b$  154) \_\_\_\_\_  
 A)  $b = \frac{h}{2A}$                       B)  $b = \frac{2A}{h}$                       C)  $b = \frac{A}{2h}$                       D)  $b = \frac{Ah}{2}$

155)  $S = 2\pi rh + 2\pi r^2$ , for  $h$  155) \_\_\_\_\_  
 A)  $h = 2\pi(S - r)$                       B)  $h = S - r$                       C)  $h = \frac{S - 2\pi r^2}{2\pi r}$                       D)  $h = \frac{S}{2\pi r} - 1$

156)  $V = \frac{1}{3}Bh$ , for  $h$  156) \_\_\_\_\_  
 A)  $h = \frac{V}{3B}$                       B)  $h = \frac{3B}{V}$                       C)  $h = \frac{3V}{B}$                       D)  $h = \frac{B}{3V}$

157)  $F = \frac{9}{5}C + 32$ , for  $C$  157) \_\_\_\_\_  
 A)  $C = \frac{F - 32}{9}$                       B)  $C = \frac{5}{F - 32}$                       C)  $C = \frac{5}{9}(F - 32)$                       D)  $C = \frac{9}{5}(F - 32)$

158)  $A = \frac{1}{2}h(a + b)$ , for  $a$  158) \_\_\_\_\_  
 A)  $a = \frac{2bA - h}{h}$                       B)  $a = \frac{2A - hb}{h}$                       C)  $a = \frac{A - hb}{2h}$                       D)  $a = \frac{hb - 2A}{h}$

159)  $d = rt$ , for  $t$  159) \_\_\_\_\_  
 A)  $t = \frac{r}{d}$       B)  $t = dr$       C)  $t = d - r$       D)  $t = \frac{d}{r}$

160)  $P = 2l + 2w$ , for  $l$  160) \_\_\_\_\_  
 A)  $l = \frac{P - w}{2}$       B)  $l = P - w$       C)  $l = \frac{P - 2w}{2}$       D)  $l = P - 2w$

161)  $A = P(1 + nr)$ , for  $r$  161) \_\_\_\_\_  
 A)  $r = \frac{P - A}{Pn}$       B)  $r = \frac{Pn}{A - P}$       C)  $r = \frac{A - P}{Pn}$       D)  $r = \frac{A}{n}$

162)  $I = Prt$ , for  $r$  162) \_\_\_\_\_  
 A)  $r = \frac{P - I}{1 + t}$       B)  $r = \frac{P - 1}{It}$       C)  $r = \frac{I}{Pt}$       D)  $r = P - tI$

163)  $\frac{1}{a} + \frac{1}{b} = \frac{1}{c}$ , for  $c$  163) \_\_\_\_\_  
 A)  $c = ab(a + b)$       B)  $c = \frac{ab}{a + b}$       C)  $c = a + b$       D)  $c = \frac{a + b}{ab}$

164)  $P = \frac{A}{1 + rt}$ , for  $r$  164) \_\_\_\_\_  
 A)  $r = \frac{P - A}{1 + t}$       B)  $r = P - tA$       C)  $r = \frac{A - P}{Pt}$       D)  $r = \frac{P - 1}{At}$

165)  $A = \frac{1}{2}h(B + b)$ , for  $b$  165) \_\_\_\_\_  
 A)  $b = 2A - Bh$       B)  $b = \frac{2A + Bh}{h}$       C)  $b = \frac{2A - Bh}{h}$       D)  $b = \frac{A - Bh}{h}$

**Solve the equation for  $y$ .**

166)  $3x + y = 9$  166) \_\_\_\_\_  
 A)  $y = 9 - 3x$       B)  $y = \frac{9 - x}{3}$       C)  $y = 3 - x$       D)  $y = 3x + 9$

167)  $16x + 5y = 17$  167) \_\_\_\_\_  
 A)  $y = -\frac{16}{5}x + \frac{17}{5}$       B)  $y = \frac{16}{5}x + \frac{17}{5}$       C)  $y = \frac{16}{5}x - \frac{17}{5}$       D)  $y = 16x - 17$

168)  $x = 7y + 9$  168) \_\_\_\_\_  
 A)  $y = \frac{1}{7}x - \frac{9}{7}$       B)  $y = \frac{1}{7}x - 9$       C)  $y = 7x - 9$       D)  $y = x - \frac{9}{7}$

169)  $-3x + 15y = 0$  169) \_\_\_\_\_  
 A)  $y = 5x + 3$       B)  $y = -5x$       C)  $y = 5x$       D)  $y = \frac{x}{5}$



**Solve the problem.**

170) Use the formula  $d = \frac{1}{2}n^2 - \frac{3}{2}n$  to find the number of diagonals in a figure with the given number 170) \_\_\_\_\_

of sides.

6 sides

A) 27

B) 9

C) 0

D) 18

171) Use the formula  $C = \frac{5}{9}(F - 32)$  to find the Celsius temperature (C) equivalent to the given 171) \_\_\_\_\_

Fahrenheit temperature (F).

F = 680°

A) C = 395.6°

B) C = 1166.4°

C) C = 1256°

D) C = 360°

172) Use the formula  $F = \frac{9}{5}C + 32$ , to find the Fahrenheit temperature (F) equivalent to the given 172) \_\_\_\_\_

Celsius temperature (C).

C = 10°

A) F = -12.2°

B) F = 23.4°

C) F = 50°

D) F = -14°

173) In chemistry, the ideal gas law is  $P = \frac{KT}{V}$  where P is pressure, T is temperature, V is volume, and K 173) \_\_\_\_\_

is a constant. Find the missing quantity.

V = 7, P = 40, K = 2

A) T = 11.43

B) T = 140

C) T = 2.86

D) T = 560

**Is the proportion set up correctly?**

174)  $\frac{oz}{hr} = \frac{oz}{hr}$  174) \_\_\_\_\_

A) Yes

B) No

175)  $\frac{ft}{sec} = \frac{ft}{sec}$  175) \_\_\_\_\_

A) Yes

B) No

176)  $\frac{mi}{min} = \frac{min}{mi}$  176) \_\_\_\_\_

A) Yes

B) No

**The results of a mathematics examination are given. Write the ratio in lowest terms.**

177) Results: 7 A's, 5 B's, 9 C's, 3 D's, 2 F's 177) \_\_\_\_\_

A's to B's

A) 7 : 5

B) 2 : 1

C) 7 : 2

D) 5 : 7

178) Results: 12 A's, 6 B's, 5 C's, 7 D's, 3 F's 178) \_\_\_\_\_

A's to total grades

A) 4 : 33

B) 11 : 3

C) 4 : 11

D) 4 : 7

179) Results: 6 A's, 6 B's, 6 C's, 2 D's, 2 F's  
Grades better than C to total grades

A) 9 : 11

B) 3 : 11

C) 6 : 11

D) 5 : 1

179) \_\_\_\_\_

**Determine the following ratio. Write the ratio as a fraction in lowest terms.**

180) 10 inches to 7 inches

A) - 7:10

B) 7:10

C) 10:7

D) - 10:7

180) \_\_\_\_\_

181) 5 inches to 12 feet

A) 5:144

B) 12:5

C) 5:12

D) 144:5

181) \_\_\_\_\_

182) 66 minutes to 8 hours

A) 11:80

B) 66:8

C) 8:66

D) 80:11

182) \_\_\_\_\_

183) 19 quarters to 7 dollars

A) 28:19

B) 19:7

C) 7:19

D) 19:28

183) \_\_\_\_\_

184) 6 nickels to 12 dollars

A) 40:1

B) 6:12

C) 12:6

D) 1:40

184) \_\_\_\_\_

185) 3 miles to 5 feet

A) 1:3168

B) 3168:1

C) 3:5

D) 5:3

185) \_\_\_\_\_

**Solve the proportion for the variable by cross-multiplying.**

186)  $\frac{x}{45} = \frac{2}{15}$

A)  $x = \frac{2}{3}$

B)  $x = 6$

C)  $x = 8$

D)  $x = \frac{675}{2}$

186) \_\_\_\_\_

187)  $\frac{6}{x} = \frac{0.5}{4}$

A)  $x = 2$

B)  $x = 24$

C)  $x = 3$

D)  $x = 48$

187) \_\_\_\_\_

188)  $\frac{2.9}{n} = \frac{1.5}{5.6}$

A)  $n = 0.9$

B)  $n = 0.1$

C)  $n = 10.8$

D)  $n = 108.3$

188) \_\_\_\_\_

189)  $\frac{x}{9.5} = \frac{0.05}{5}$

A)  $x = 10.53$

B)  $x = 2.38$

C)  $x = 0.10$

D)  $x = 950.00$

189) \_\_\_\_\_

**Write a proportion that can be used to solve the problem. Then solve the equation to obtain the answer.**

190) The ratio of a quarterback's completed passes to attempted passes is 7 : 10. If he attempted 30 passes, find how many passes he completed. Round to the nearest whole number.

A) 10 passes

B) 21 passes

C) 43 passes

D) 3 passes

190) \_\_\_\_\_

- 191) The ratio of a basketball player's completed free throws to attempted free throws is 6 : 7. If she completed 12 free throws, find how many free throws she attempted. Round to the nearest whole number. 191) \_\_\_\_\_  
 A) 6 free throws      B) 14 free throws      C) 2 free throws      D) 10 free throws
- 192) It takes Kim 18 minutes to type and spell check 10 pages of a manuscript. Find how long it takes her to type and spell check 15 pages. Round to the nearest whole number. 192) \_\_\_\_\_  
 A) 270 minutes      B) 27 minutes      C) 18 minutes      D) 8 minutes
- 193) It takes Mark 20 minutes to type and spell check 6 pages. Find how many pages he can type and spell check in 2.5 hours. Round to the nearest tenth. 193) \_\_\_\_\_  
 A) 45 pages      B) 15 pages      C) 75 pages      D) 500 pages
- 194) On an architect's blueprint, 1 inch corresponds to 8 feet. Find the length of a wall represented by a line  $7\frac{3}{4}$  inches long on the blueprint. Round to the nearest tenth. 194) \_\_\_\_\_  
 A) 62 feet      B) 10.3 feet      C) 96.9 feet      D) 12.5 feet
- 195) It is recommended that there be at least 12.4 square feet of floor space in a classroom for every student in the class. Find the minimum floor space that 47 students require. Round to the nearest tenth. 195) \_\_\_\_\_  
 A) 26.4 square feet      B) 582.8 square feet  
 C) 12.4 square feet      D) 379.0 square feet
- 196) It is recommended that there be at least 13.8 square feet of ground space in a garden for every newly planted shrub. A garden is 32.2 feet by 15 feet. Find the maximum number of shrubs the garden can accommodate. 196) \_\_\_\_\_  
 A) 160 shrubs      B) 35 shrubs      C) 12 shrubs      D) 2 shrubs
- 197) It is recommended that there be at least 19 square feet of work space for every person in a conference room. A certain conference room is 10 feet by 15 feet. Find the maximum number of people the room can accommodate. 197) \_\_\_\_\_  
 A) 28 people      B) 8 people      C) 7 people      D) 18 people
- 198) A bag of fertilizer covers 1000 square feet of lawn. Find how many bags of fertilizer should be purchased to cover a rectangular lawn 160 feet by 40 feet. 198) \_\_\_\_\_  
 A) 6 bags      B) 7 bags      C) 640 bags      D) 64 bags

**Determine the ratio and write the ratio as some quantity to 1.**

- 199) According to a study, each week the average elementary child spends 11 hours watching television, 3 hours reading books, and 6 hours playing outside. What is the ratio of number of hours of television watched to the number of hours reading? 199) \_\_\_\_\_  
 A) 3:11; 0.27:1      B) 11:6; 1.83:1      C) 11:3; 3.67:1      D) 11:8; 1.38:1
- 200) After a recent poll of registered voters in Grant County it is determined that 54% plan on voting for the the Republican candidate for governor, 36% plan on voting for the Democrat candidate, and 10% were undecided. What is the ratio of Republican voters to Democrat voters? 200) \_\_\_\_\_  
 A) 3:2; 1.5:1      B) 54:10; 5.4:1      C) 18:1      D) 2:3; 0.67:1

Use a proportion to make the conversion. Round answers to two decimal places.

201) Convert 37,064 feet to miles.

- A) 0.14 mi                      B) 7.02 mi                      C) 195,697,920 mi                      D) 14.25 mi

201) \_\_\_\_\_

202) In a geometry class, for a particular test, we find that 1 standard deviation equals 8 points. How many points equal 3.25 standard deviations?

- A) 4.06 points                      B) 0.41 points                      C) 26 points                      D) 2.46 points

202) \_\_\_\_\_

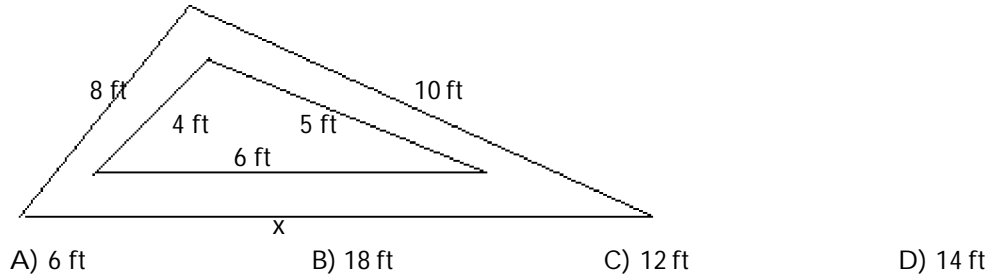
The following figures are similar. For the pair, find the length of the side indicated by x.

203)

- 75 in.                      x                      7 in.
- A) 12 in.                      72 in.                      24 in.                      B) 21 in.                      C) 7 in.                      D) 28 in.

203) \_\_\_\_\_

204)



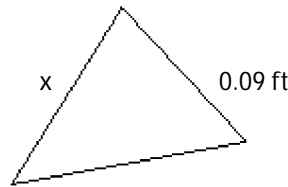
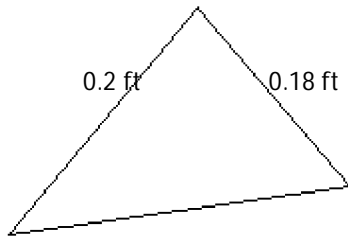
204) \_\_\_\_\_

205)

- A) 44 in.                      36 in.                      B) 36 in.                      C) 55 in.                      D) 41 in.

205) \_\_\_\_\_

206)



A) 0.081 ft

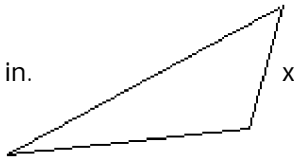
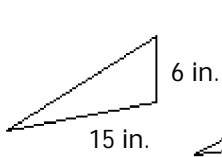
B) 0.4 ft

C) 10 ft

D) 0.1 ft

206) \_\_\_\_\_

207)



A) 9 in.

B) 4 in.

C) 0.4 in.

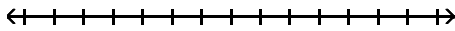
D) 90 in.

207) \_\_\_\_\_

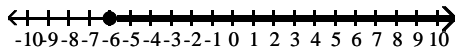
**Solve the inequality. Graph the solution on a number line and represent the solution in interval notation when possible.**

208)  $-5x \geq 30$

208) \_\_\_\_\_

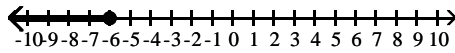


A)  $x \geq -6$



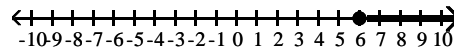
$[-6, \infty)$

C)  $x \leq -6$



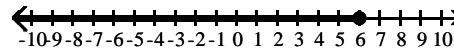
$(-\infty, -6]$

B)  $x \geq 6$



$[6, \infty)$

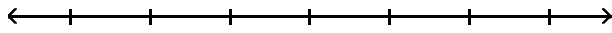
D)  $x \leq 6$



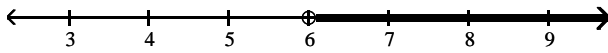
$(-\infty, 6]$

209)  $x - 4 < 2$

209) \_\_\_\_\_

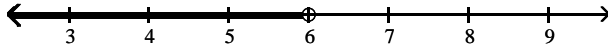


A)  $x > 6$



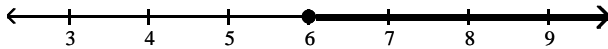
$(6, \infty)$

B)  $x < 6$



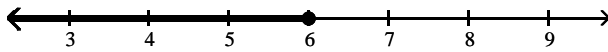
$(-\infty, 6)$

C)  $x \geq 6$



$[6, \infty)$

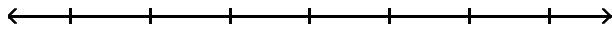
D)  $x \leq 6$



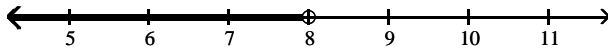
$(-\infty, 6]$

210)  $6x - 3 > 5x + 5$

210) \_\_\_\_\_

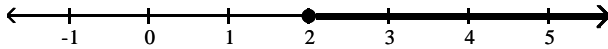


A)  $x < 8$



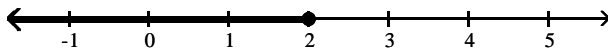
$(-\infty, 8)$

B)  $x \geq 2$



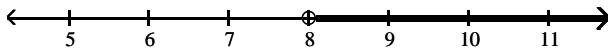
$[2, \infty)$

C)  $x \leq 2$



$(-\infty, 2]$

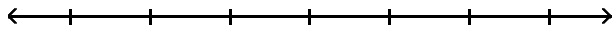
D)  $x > 8$



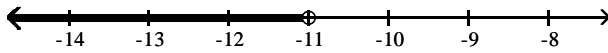
$(8, \infty)$

211)  $-11x - 3 \leq -12x - 9$

211) \_\_\_\_\_

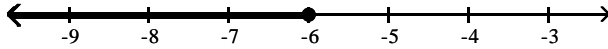


A)  $x < -11$



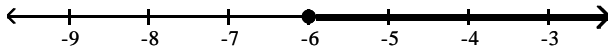
$(-\infty, -11)$

B)  $x \leq -6$



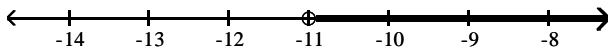
$(-\infty, -6]$

C)  $x \geq -6$



$[-6, \infty)$

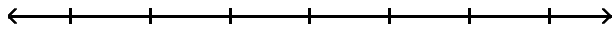
D)  $x > -11$



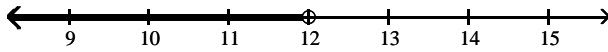
$(-11, \infty)$

212)  $12x - 12 \geq 11x - 17$

212) \_\_\_\_\_

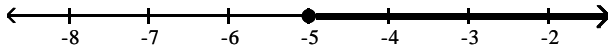


A)  $x < 12$



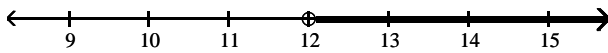
$(-\infty, 12)$

B)  $x \geq -5$



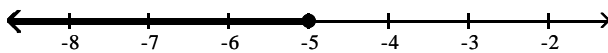
$[-5, \infty)$

C)  $x > 12$



$(12, \infty)$

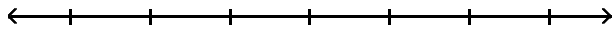
D)  $x \leq -5$



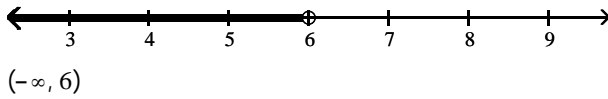
$(-\infty, -5]$

213)  $x - 7 < -1$

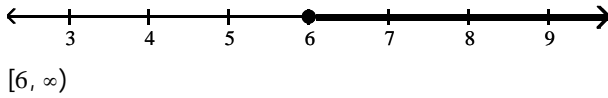
213) \_\_\_\_\_



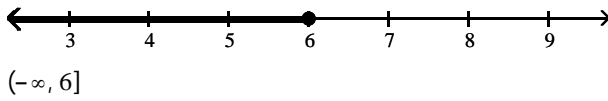
A)  $x < 6$



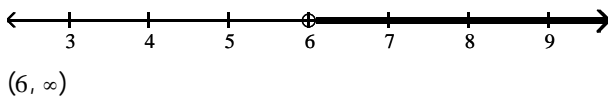
B)  $x \geq 6$



C)  $x \leq 6$

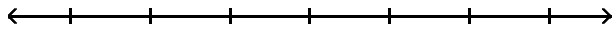


D)  $x > 6$

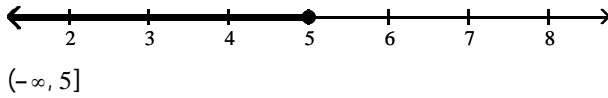


214)  $3 - 9x + 7 \geq -10x + 15$

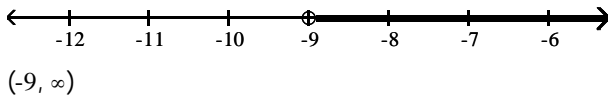
214) \_\_\_\_\_



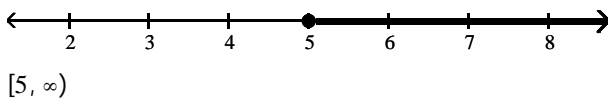
A)  $x \leq 5$



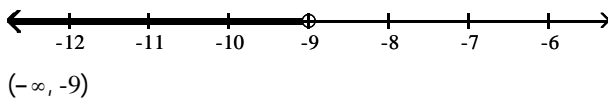
B)  $x > -9$



C)  $x \geq 5$

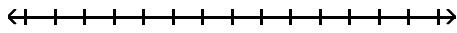


D)  $x < -9$

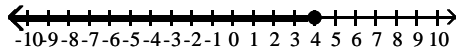




215)  $3x + 9 < 21$

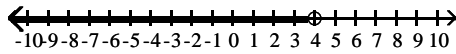


A)  $x \leq 4$



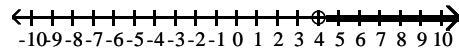
$(-\infty, 4]$

C)  $x < 4$



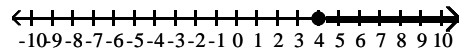
$(-\infty, 4)$

B)  $x > 4$



$(4, \infty)$

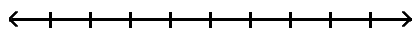
D)  $x \geq 4$



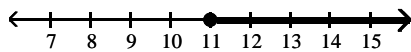
$[4, \infty)$

215) \_\_\_\_\_

216)  $-8x + 10 - 8x < 6 - 18x + 6$

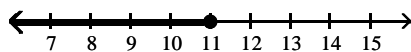


A)  $x \geq 11$



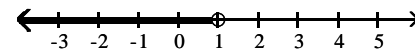
$[11, \infty)$

C)  $x \leq 11$



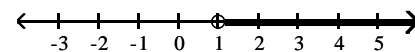
$(-\infty, 11]$

B)  $x < 1$



$(-\infty, 1)$

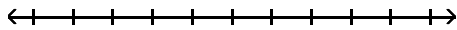
D)  $x > 1$



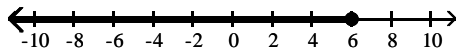
$(1, \infty)$

216) \_\_\_\_\_

217)  $8x - 10 \leq 2x - 14$

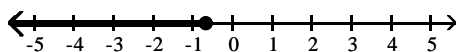


A)  $x \leq 6$



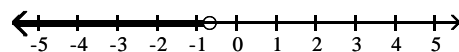
$(-\infty, 6]$

C)  $x \leq -\frac{2}{3}$



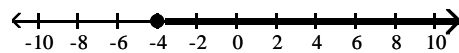
$\left(-\infty, -\frac{2}{3}\right]$

B)  $x < -\frac{2}{3}$



$\left(-\infty, -\frac{2}{3}\right)$

D)  $x \geq -4$

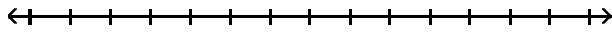


$[-4, \infty)$

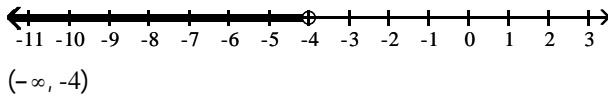
217) \_\_\_\_\_

218)  $-4(4x + 4) < -20x - 32$

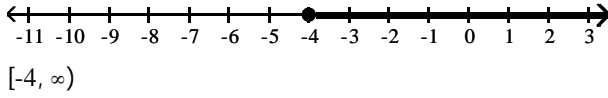
218) \_\_\_\_\_



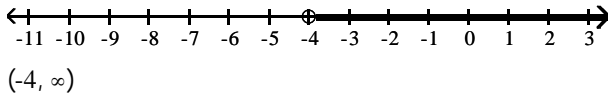
A)  $x < -4$



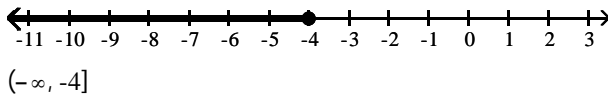
B)  $x \geq -4$



C)  $x > -4$

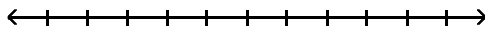


D)  $x \leq -4$

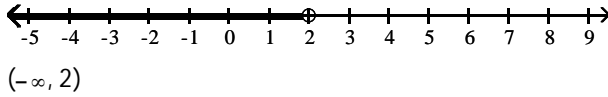


219)  $21x + 15 > 3(6x + 7)$

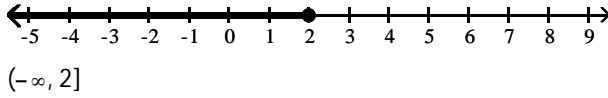
219) \_\_\_\_\_



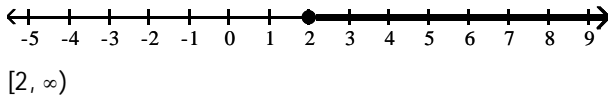
A)  $x < 2$



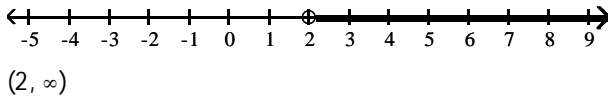
B)  $x \leq 2$



C)  $x \geq 2$

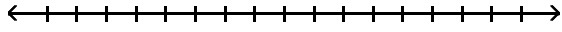


D)  $x > 2$

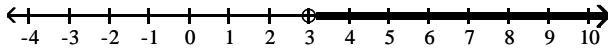


220)  $-6x + 14 \leq -2(2x - 4)$

220) \_\_\_\_\_

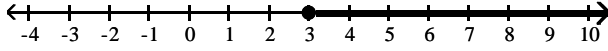


A)  $x > 3$



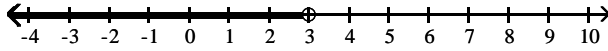
$(3, \infty)$

B)  $x \geq 3$



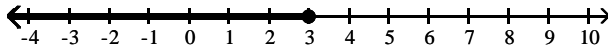
$[3, \infty)$

C)  $x < 3$



$(-\infty, 3)$

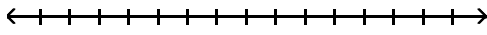
D)  $x \leq 3$



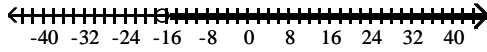
$(-\infty, 3]$

221)  $\frac{x}{5} - \frac{1}{4} \leq \frac{x}{3} + 2$

221) \_\_\_\_\_

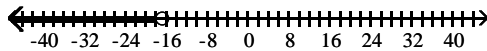


A)  $x > -\frac{135}{8}$



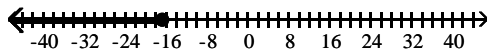
$\left(-\frac{135}{8}, \infty\right)$

B)  $x < -\frac{135}{8}$



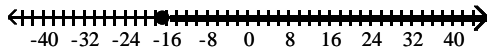
$\left(-\infty, -\frac{135}{8}\right)$

C)  $x \leq -\frac{135}{8}$



$\left(-\infty, -\frac{135}{8}\right]$

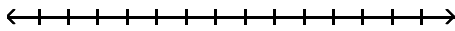
D)  $x \geq -\frac{135}{8}$



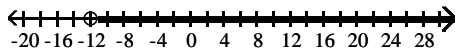
$\left[-\frac{135}{8}, \infty\right)$

222)  $\frac{x-2}{15} \geq \frac{x-5}{18} + \frac{1}{90}$

222) \_\_\_\_\_

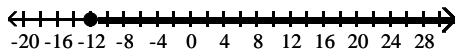


A)  $x > -12$



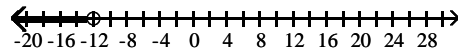
$(-12, \infty)$

C)  $x \geq -12$



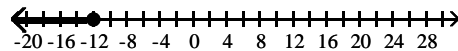
$[-12, \infty)$

B)  $x < -12$



$(-\infty, -12)$

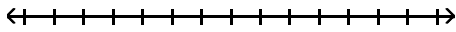
D)  $x \leq -12$



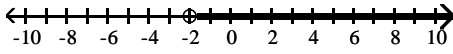
$(-\infty, -12]$

223)  $1.4x + 7.4 < 3.7x + 2.8$

223) \_\_\_\_\_

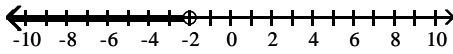


A)  $x > -2$



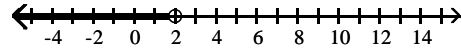
$(-2, \infty)$

C)  $x < -2$



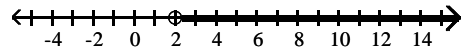
$(-\infty, -2)$

B)  $x < 2$



$(-\infty, 2)$

D)  $x > 2$



$(2, \infty)$

Use the table to answer the question.

224) The table gives the average high monthly temperature (in °F) for one year in Middleville.

224) \_\_\_\_\_

Jan	Feb	Dec	Nov	Oct	Mar	Apr	Sep	May	Jun	Jul	Aug
28°	32°	33°	35°	45°	48°	51°	60°	67°	75°	81°	85°

In what months was the average high temperature  $\leq 45^\circ\text{F}$ ?

A) Jan, Feb Dec, Nov, Oct

B) Jan, Feb Dec, Nov, Oct, Mar

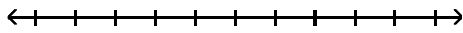
C) Mar, Apr, Sep, May, Jun, Jul, Aug

D) Jan, Feb Dec, Nov

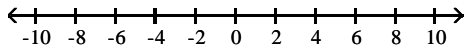
Solve the inequality. Graph the solution on a number line and represent the solution in interval notation when possible.

225)  $x + 8 \geq x - 5$

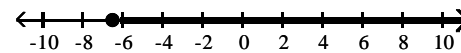
225) \_\_\_\_\_



A) no solution

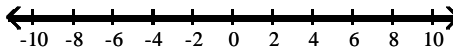


B)  $x \geq -\frac{13}{2}$



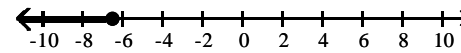
$\left[-\frac{13}{2}, \infty\right)$

C) all real numbers



$(-\infty, \infty)$

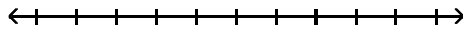
D)  $x \leq -\frac{13}{2}$



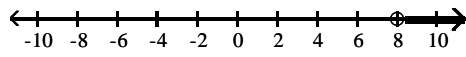
$\left(-\infty, -\frac{13}{2}\right]$

226)  $-4(-2 - x) < 6x + 19 - 11 - 2x$

226) \_\_\_\_\_

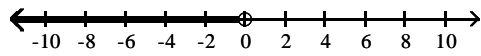


A)  $x > 8$



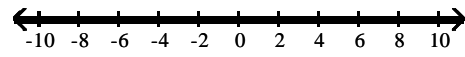
$(8, \infty)$

C)  $x < 0$



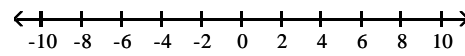
$(-\infty, 0)$

B) all real numbers



$(-\infty, \infty)$

D) no solution



## Answer Key

Testname: UNTITLED2

- 1) B
- 2) C
- 3) B
- 4) C
- 5) A
- 6) B
- 7) A
- 8) B
- 9) B
- 10) A
- 11) A
- 12) A
- 13) B
- 14) D
- 15) A
- 16) A
- 17) D
- 18) C
- 19) A
- 20) C
- 21) D
- 22) C
- 23) A
- 24) C
- 25) B
- 26) A
- 27) D
- 28) D
- 29) D
- 30) D
- 31) A
- 32) B
- 33) B
- 34) D
- 35) A
- 36) D
- 37) B
- 38) D
- 39) B
- 40) B
- 41) B
- 42) D
- 43) A
- 44) A
- 45) B
- 46) B
- 47) B
- 48) A
- 49) A
- 50) B

## Answer Key

Testname: UNTITLED2

- 51) A
- 52) A
- 53) B
- 54) A
- 55) A
- 56) B
- 57) C
- 58) A
- 59) D
- 60) A
- 61) D
- 62) D
- 63) A
- 64) C
- 65)
- 66) B
- 67) C
- 68) B
- 69) A
- 70) A
- 71) D
- 72) D
- 73) C
- 74) D
- 75) D
- 76) D
- 77) C
- 78) D
- 79) A
- 80) A
- 81) D
- 82) C
- 83) A
- 84) A
- 85) C
- 86) A
- 87)
- 88) A
- 89) C
- 90) A
- 91) D
- 92) C
- 93) C
- 94) B
- 95) A
- 96) B
- 97) D
- 98) C
- 99) D
- 100) D



## Answer Key

Testname: UNTITLED2

- 101) C
- 102) A
- 103) A
- 104) D
- 105) C
- 106) A
- 107) D
- 108) D
- 109) D
- 110) A
- 111) B
- 112) D
- 113) B
- 114) B
- 115) D
- 116) D
- 117) C
- 118) C
- 119) C
- 120) D
- 121) C
- 122) D
- 123) B
- 124) A
- 125) D
- 126) C
- 127) D
- 128) A
- 129) A
- 130) A
- 131) B
- 132) C
- 133) D
- 134) A
- 135) D
- 136) A
- 137) D
- 138) D
- 139) C
- 140) D
- 141) D
- 142) C
- 143) A
- 144) B
- 145) C
- 146) D
- 147) A
- 148) B
- 149) C
- 150) C

## Answer Key

Testname: UNTITLED2

- 151) D
- 152) D
- 153) D
- 154) B
- 155) C
- 156) C
- 157) C
- 158) B
- 159) D
- 160) C
- 161) C
- 162) C
- 163) B
- 164) C
- 165) C
- 166) A
- 167) A
- 168) A
- 169) D
- 170) B
- 171) D
- 172) C
- 173) B
- 174) A
- 175) A
- 176) B
- 177) A
- 178) C
- 179) C
- 180) C
- 181) A
- 182) A
- 183) D
- 184) D
- 185) B
- 186) B
- 187) D
- 188) C
- 189) C
- 190) B
- 191) B
- 192) B
- 193) A
- 194) A
- 195) B
- 196) B
- 197) C
- 198) B
- 199) C
- 200) A

Answer Key

Testname: UNTITLED2

- 201) B
- 202) C
- 203) B
- 204) C
- 205) A
- 206) D
- 207) A
- 208) C
- 209) B
- 210) D
- 211) B
- 212) B
- 213) A
- 214) C
- 215) C
- 216) B
- 217) C
- 218) A
- 219) D
- 220) B
- 221) D
- 222) C
- 223) D
- 224) A
- 225) C
- 226) D